AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listing of claims in the application.

Listing of Claims:

1-124 (Cancelled)

125. (New) A method for identifying the putative effect of a compound on olfactory perception in a mammal comprising the following:

(i) assaying the effect of one or more compounds that elicit a known effect on olfactory perception in a mammal in a cell-based assay that detects whether said one or more compounds modulate the activity of an olfactory receptor polypeptide encoded by a nucleic acid sequence having SEQ ID NO: 56 or an olfactory polypeptide which hybridizes under stringent hybridization conditions to said nucleic acid sequence, wherein said stringent hybridization conditions comprise hybridization in 50% formamide, 5X SSC, and 10% SDS, incubation at 42°C with wash in 0.2X SSC and 0.1% SDS at 65°C, wherein said wash and hybridization step are each conducted for 1 minute; and

(ii) selecting compounds from step (i) that modulate the activity of said olfactory receptor polypeptide in said cell-based assay.

126. (New) The method of claim 125 which further includes an additional step wherein the effect of one or more compounds having an unknown effect on olfactory

perception is screened in said cell-based assay and compounds are selected that enhance, inhibit or mimic the modulatory effect of said selected compound(s) having a known effect on olfactory perception on the activity of said olfactory receptor polypeptide in said cell-based assay.

127. (New) The method of claim 125 wherein the receptor polypeptide is encoded by a nucleic acid sequence having SEQ ID No: 56.

128. (New) The method claim 126 wherein said selected compound having an unknown effect on an olfactory perception mimics the modulatory effect of said selected one or more compounds that elicit a known effect on olfactory perception in a mammal on the activity of said olfactory receptor polypeptide.

129. (New) The method of claim 127 wherein said olfactory polypeptide is encoded by the nucleic acid sequence having SEQ ID NO: 56.

130. (New) The method of claim 125 wherein said one or more compounds that elicit a known effect on olfactory perception are fragrance compounds.

131. (New) The method of claim 126 wherein the one or more compounds having an unknown effect on olfactory perception in a mammal are comprised in a compound library.

132. (New) The method of claim 131 wherein said library is a combinatorial chemical library.

133. (New) The method of claim 131 wherein said library is a random combination of compounds.

134. (New) The method of claim 126 wherein said selected compound having a known effect on olfactory perception is a malodorant and the selected compound having an unknown effect on olfactory perception inhibits the modulatory effect of said compound on said olfactory receptor.

135. (New) The method of claim 126 wherein the selected one or more compounds enhance the modulatory effect of said compound having a known effect on olfactory perception on the activity of said olfactory receptor polypeptide.

136. (New) The method of claim 125 wherein the cell that expresses said olfactory receptor expresses a G protein that functionally couples to said receptor.

137. (New) The method of claim 136 wherein said G protein is $G_{\alpha 15}$ or $G_{\alpha 16}$.

138. (New) The method of claim 125 wherein the cell-based assay detects the effect of said one or more compounds on levels of intracellular calcium.

139. (New) The method of claim 125 wherein the cell-based assay detects the effect of said one or more compounds on the level of intracellular cyclic nucleotides.

140. (New) The method of claim 125 wherein the cell-based assay detects changes in intracellular calcium by detecting changes in FURA-2 dependent fluorescence in the cell.

141. (New) The method of claims 125 wherein the cell-based assay detects the transfer of 32p from gamma-labeled ATP to said olfactory receptor polypeptide.

142. (New) The method of claim 125 wherein said cell-based assay detects changes in electrophysiology of a cell or cell membrane expressing said olfactory polypeptide.

143. (New) The method of claim 142 wherein electrophysiology is detected by a voltage-clamp or patch-clamp technique.

144. (New) The method of claim 125 wherein the cell-based assay detects changes in total cell current by a radiolabeled ion flux assay or fluorescence assay that detects changes in voltage by use of a voltage sensitive dye.

145. (New) The method of claim 125 wherein said cell-based assay detects changes in intracellular levels of second messengers.

146. (New) The method of claim 145 wherein said second messengers are selected from the group consisting of Ca2+, IP3, cGMP and cAMP.

147. (New) The method of claim 146 wherein said cell-based assay detects changes in inositol triphosphate (IP3).

148. (New) The method of claim 125 wherein the cell that expresses said olfactory receptor polypeptide is a HEK-293 cell line that expresses one or more chaperone proteins.

149. (New) The method of claim 125 wherein the cell that expresses said olfactory receptor polypeptide is a HEK-293 cell line that expresses a promiscuous G protein.

150. (New) The method of claim 125 wherein the cell-based assay detects the effect of said one or more compounds on the transcription of a gene of interest or reporter gene.

151. (New) The method of claim 125 wherein said one or more compounds that elicit a known effect on olfactory perception in a mammal are selected from the group consisting of perfumes, fragrances, deodorizing compounds, air freshener compounds, foods, drugs and compositions containing.

152. (New) The method of claim 125 wherein said method is used to identify compounds that block the smell olfactory effect elicited by said one or more compounds having a known effect on olfactory perception in a mammal.

153. (New) The method of claim 125 wherein said method is used to identify compounds that enhance or inhibit the olfactory effect of said one or more compounds having a known effect on olfactory perception in a mammal.

154. (New) The method of claim 125 wherein said one or more compounds are further screened in a cell-based assay that detects the effect of said one or more compounds on the activity of at least one other human olfactory receptor polypeptide.